

WHAT IS CLAIMED IS:

2 1. A test device for determining the concentration of an analyte in a
4 sample, the test device having a memory in which a plurality of calibration
6 adjustments corresponding to a plurality of calibration numbers are stored, the test
8 device being adapted to receive a test sensor for collecting the sample, the test sensor
containing a reagent adapted to produce a reaction indicative of the concentration of
the analyte in the body fluid, the test sensor having an associated calibration number
of a plurality of digits, the device comprising:

10 a measuring unit for measuring the reaction of the reagent and the analyte and
for generating a signal indicative of the measured reaction;

12 a single calibration input element for permitting a user to input the calibration
number, one digit at a time, associated with the test sensor;

14 a processor electronically coupled to the single calibration input element and
the measuring unit, the processor being adapted to determine the concentration of the
16 analyte in the sample in response to receiving the inputted calibration number and
receiving the signal indicative of the measured reaction from the measuring unit; and

18 a user display electronically coupled to the processor for displaying digits to
be selected from by a user inputting the calibration number and for displaying the
20 determined concentration of the analyte in the sample.

22 2. The device of claim 1 wherein the calibration number includes a first
digit and a second digit, the processor being adapted to commence scrolling through a
24 plurality of numbers on the user display, from which the first digit of the calibration
number is selected, upon activation of the single calibration input element by the user,
26 the processor being adapted to suspend scrolling through the numbers upon
deactivation of the single calibration input element by the user, the processor
28 accepting the number displayed on the user display at the time of the deactivation of
the single calibration input element as the first digit of the calibration number.

30 3. The device of claim 2 wherein the processor accepts the displayed
32 number after a predetermined time period measured from the deactivation of the
single calibration input element.

4. The device of claim 2 wherein the processor is adapted to commence
scrolling through a plurality of numbers on the user display, from which the second
digit of the calibration number is selected, upon activation of the single calibration
input element by the user after acceptance by the processor of the first digit of the
calibration number, the processor being adapted to suspend scrolling through the
numbers upon deactivation of the single calibration input element by the user, the
processor accepting the number displayed on the user display at the time of the
deactivation of the single calibration input element as the second digit of the
calibration number.

5. The device of claim 1 wherein the processor prompts the user, via the
display, to input a first digit of the calibration number.

6. The device of claim 5 wherein the processor is adapted to scroll
through a plurality of numbers on the user display, from which the first digit of the
calibration number is selected, in response to a plurality of activations of the single
calibration input element by the user, the processor accepting a displayed number as
the first digit of the calibration number after a predetermined time measured from a
most-recent activation of the single calibration input element.

7. The device of claim 6 wherein the processor prompts the user, via the
display, to input a second digit of the calibration number upon acceptance of the first
digit.

8. The device of claim 7 wherein the processor is adapted to scroll
through a plurality of numbers on the user display, from which the second digit of the
calibration number is selected, in response to a plurality of activations of the single
calibration input element by the user, the processor accepting a displayed number as
the second digit of the calibration number after a predetermined time measured from
the last activation of the single calibration input element.

9. The device of claim 8 wherein the calibration number consists of a
predetermined number of digits, the processor automatically adjusting the at least one

adjustable parameter of the concentration equation upon receipt of the final digit of the calibration number consisting of a predetermined number of digits.

10. The device of claims 8 further comprising an enter input element for permitting a user to indicating to the processor that all of digits of the calibration number have been entered, the processor automatically adjusting the at least one adjustable parameter of the concentration equation upon activation of the enter input element by the user.

11. The device of claim 1 wherein the calibration number consists of a predetermined number of digits, the processor adjusting the at least one adjustable parameter of the concentration equation according to the stored adjustment corresponding to the input calibration number upon receipt of each of the predetermined number of digits of the calibration number.

12. The device of claim 1 further comprising an enter input element, the processor accepting the inputted calibration number upon receipt user input, via the enter input element, indicating that each of the plurality of digits of the predetermined number have been input.

13. The device of claim 1 wherein the calibration number ranges between two digits and five digits.

14. The device of claim 1 wherein the calibration number has a number base selected from the group consisting of number base three, number base four, number base five, and number base six.

15. The device of claim 1 wherein the processor is adapted to display on the user display a previously entered calibration number upon an initial activation of the single calibration input element.

16. The device of claim 1 wherein the reagent is adapted to produce an optical reaction and the measuring unit is adapted to measure the optical reaction.

17. The device of claim 16 wherein the optical reaction is a colorimetric reaction and the measuring unit is adapted to measure the colorimetric reaction.

18. The device of claim 1 wherein the reagent is adapted to produce an electrochemical reaction and the measuring unit is adapted to measure the electrochemical reaction.

19. The device of claim 1 wherein the sample is blood.

20. The device of claim 1 wherein the analyte is glucose.

21. The device of claim 1 wherein the processor determines the concentration of the analyte in the sample according to a calibration equation having an adjustable parameter, the processor adjusts the adjustable parameter according to the stored adjustment corresponding to the inputted calibration number.

22. A method for entering a multiple-digit calibration number into a test device, the test device having a memory in which a plurality of calibration adjustments corresponding to a plurality of calibration numbers are stored, the test device being adapted to receive a test sensor for collecting a sample, the test sensor containing a reagent adapted to produce a reaction indicative of the concentration of the analyte in the sample, the test sensor having an associated calibration number, the method comprising:

prompting a user, via a user display, to enter a digit of the calibration number; receiving input from the user, via a single calibration input element, indicative of the calibration number, one digit at a time;

measuring the reaction of between an analyte in a collected body fluid sample and the reagent contained in the test sensor;

determining the concentration of the analyte in the body fluid in response to receiving the calibration number from the user and measuring the reaction; and

displaying the determined concentration of the analyte in the body fluid on the user display.

23. The method of claim 22 wherein receiving input from the user
2 indicative of the calibration number further comprises:

4 (a) prompting the user to input a particular one of the multiple digits of the
calibration number;

6 (b) scrolling through a plurality of digits, one at a time, from which the
particular one of the multiple digits can be selected, on the user display in response to
repeated activations of the single calibration input element by the user until a
8 displayed number is displayed on the user display;

10 (c) accepting the displayed number as the particular one of the multiple-digits
of the calibration number; and

12 (d) repeating (a) through (c) until all of the digits of the multiple-digit
calibration number have been accepted.

14 24. The method of claim 23 wherein the accepted digits are accepted by
the test device as the calibration number after a predetermined time period of
16 inactivity.

18 25. The method of claim 23 wherein the accepted digits are accepted by
the test device as the calibration number upon receipt of user input, via an enter input
20 element, indicative that the all of the digits of the calibration number have been
inputted by the user.

22 26. The method of claim 23 wherein scrolling through a plurality of
24 numbers comprises scrolling through the numbers corresponding to the number base
of the calibration number.

26 27. The method of claim 22 wherein receiving input from the user
28 indicative of the calibration number further comprises:

30 (a) prompting the user to input a particular one of the multiple digits of the
calibration number;

32 (b) scrolling through a plurality of numbers displayed on the user display,
from which the particular one of the multiple digits can be selected, in response to
activating the single calibration input element;

(c) suspending the scrolling when a desired number for selection as the particular one of the multiple digits is displayed on the user display in response to deactivating the single calibration input element;

(d) accepting the displayed number as the particular one of the multiple-digits of the calibration number; and

(e) repeating (a) through (d) until all of the digits of the multiple-digit calibration number have been accepted.

28. The method of claim 27 wherein the accepted digits are accepted by the test device as the calibration number after a predetermined time period of inactivity.

29. The method of claim 27 wherein the accepted digits are accepted by the test device as the calibration number upon receipt of user input, via an enter input element, indicative that the all of the digits of the calibration number have been inputted by the user.

30. The method of claim 27 wherein scrolling through a plurality of numbers comprises scrolling through the numbers corresponding to the number base of the calibration number.

31. The method of claim 22 wherein the multiple-digit calibration ranges between two digits and five digits.

32. The method of claim 22 wherein the calibration number has a number base selected from the group consisting of number base three, number base four, number base five, and number base six.

33. The method of claim 22 wherein measuring comprises measuring an optical reaction.

34. The method of claim 22 wherein measuring comprises measuring a colorimetric reaction.

35. The method of claim 22 wherein measuring comprises measuring an
2 electrochemical reaction.

4 36. The method of claim 22 wherein the sample is blood.

6 37. The method of claim 22 wherein the analyte is glucose.

8 38. The method of claim 22 wherein determining comprises determining
the concentration of the analyte in the sample according to a calibration equation
10 having an adjustable parameter and adjusting the adjustable parameter according to
the stored adjustment corresponding to the inputted calibration number.
12

14 39. A calibration number input system for a test device for measuring the
concentration of an analyte in a sample, the test device having a memory in which a
concentration equation having at least one adjustable parameter and a plurality of
16 calibration adjustments for the concentration equation corresponding to a plurality of
calibration numbers are stored, the input system comprising:

18 a user display for displaying information to a user of the test device;

a single calibration input element for permitting the user to select digits for

20 inputting a multiple-digit calibration number, one digit at a time; and

a processor electronically coupled to the single calibration input element and

22 the user display, the processor prompting the user to input each of the digits of the
calibration number, one at a time, the processor receiving the inputted calibration
24 number and adjusting the at least one adjustable parameter of the concentration
equation according to the stored adjustment corresponding to the inputted calibration
26 number.

28 40. The system of claim 39 wherein the processor is adapted to receive a
calibration number of a specific number of digits, the processor permitting a user to
30 scroll through an array of numbers being displayed on the user display, one number at
a time, such that the next number in the array of numbers to be displayed is displayed
32 in response to each activation of the single calibration input element, each digit of the
calibration number being selected from the array of numbers, the processor accepting
34 a displayed number as the particular digit of the calibration number presently being

inputted by the user in response to not receiving input from the single calibration
input element for a predetermined time period, the processor entering the accepted
numbers as the calibration number upon acceptance of a number as a last number of
the specific number of digits.

41. The system of claim 39 wherein the processor prompts the user, via the
display, to input a first digit of the calibration number upon an initial activation of the
single calibration input element.

42. The system of claim 39 wherein the calibration number ranges between
two digits and five digits.

43. The system of claim 39 wherein the calibration number has a number
base selected from the group consisting of number base three, number base four,
number base five, and number base six.

44. The system of claim 39 wherein the numbers in the array of numbers
corresponds to the number base of the calibration number.

45. The system of claim 39 wherein the processor is adapted to display on
the user display a previously entered calibration number upon an initial activation of
the single calibration input element.

46. The system of claim 45 wherein the processor is adapted to enter the
displayed previously entered calibration number as the calibration number to be used
after a predetermined time period has elapsed measured from the initial activation of
the single calibration input element during which the single calibration input element
is not activated.